

# ANALYSIS

THE UNIVERSITY  
OF MICHIGAN

Edited by  
BERNARD MAYO  
with the advice of

JUL 19 1960

PERIODICAL  
READING ROOM

A. J. Ayer	P. T. Geach
R. B. Braithwaite	C. A. Mace
Herbert Dingle	A. M. MacIver
A. E. Duncan-Jones	H. H. Price

---

## CONTENTS

John Langshaw Austin  
J. O. URMSON

Ifs, Cans and Causes  
KEITH LEHRER

Sense Without Denotation  
TIMOTHY SMILEY

The Meaning of "Existence"  
HOLGER STEEN SØRENSEN

On Defining "Moral"  
C. H. WHITELEY

---

THREE SHILLINGS AND SIXPENCE NET

---

SIL BLACKWELL · BROAD STREET · OXFORD

---

AN

A  
tel  
So  
wh  
to  
(19  
(19  
An  
bas  
Ma  
un  
fes  
and  
bro  
cis  
att  
bil  
tea  
me  
to  
exa  
wa  
wi  
is c

ph  
kn  
wa  
der  
exi  
exa  
me  
sur  
he  
lev  
the

## JOHN LANGSHAW AUSTIN (1911-1960)

By J. O. URMSON

AUSTIN published little; his British Academy Lecture 'Ifs and Cans' (1956), his Presidential Address to the Aristotelian Society 'A Plea for Excuses' (1956), his Aristotelian Society paper 'How to Talk—Some simple ways' (1953), about which he later expressed dissatisfaction, and four contributions to Symposia at Joint Sessions 'Are there A Priori Concepts?' (1939), 'Other Minds' (1946), 'Truth' (1950) and 'Pretending' (1958), together with his translation of Frege's *Foundations of Arithmetic*, is all he published. His reputation was therefore based largely on the spoken word; the pupils he taught at Magdalen College from 1935 to 1952 with continuing and unusual success, the graduates he supervised as White's Professor of Moral Philosophy, the many who attended his classes and lectures at Oxford, Harvard, Berkeley and elsewhere were brought into contact with an intelligence whose ideals of precision, clarity and scholarship, combined with a capacity to attain them, were a revelation of hitherto unimagined possibilities. But his contemporaries and juniors among Oxford teachers of philosophy owe him the greatest debt; in regular meetings on Saturday mornings each week of term from 1947 to 1959, and also in casual discussions, he taught us anew, by example, the aims and skills of philosophy. He knew that he was doing this and was always the leader of the discussion, but without a trace of arrogance or self-assertion; very much of what is distinctive of and best in Oxford philosophy was his creation.

His mind was highly original; though he was at home in philosophical scholarship and had an unusually deep and wide knowledge of Plato, Aristotle and Leibniz, his own main work was done with quite new methods and was largely independent of previous philosophical enquiries. He considered that existing techniques, both philosophical and empirical, for the examination of language were rudimentary and that any improvement in this state of affairs must be securely based on a detailed survey of the whole range of linguistic phenomena. The time, he thought, was not ripe for ambitious generalizations and high-level theories, an appetite for which was largely responsible for the skimping of the groundwork. Hence, in part, his consistent

refusal to ask whether his results were important philosophically, though he certainly knew that they were; but he also wanted to understand language for its own sake, and such dicta as 'I am not sure importance is important; truth is' reflect his impatience with the impatient.

But words were his delight as well as his study, as is evident to any reader of his writings: 'that goddess fair and free (fairly fair, frailly free), divinest Etymology', 'barking up the wrong gum-tree', 'let sleeping dogmatists lie', 'a myth-eaten description'. These short quotations hint at a vein of fantastic humour, more extensively revealed in his article 'Pretending', which when indulged in private reached heights of calculated unexpectedness.

He was rigorous and unyielding in intellectual debate and in his earlier years had gained a reputation as a terrifying man to meet which survived, as an obstinate ghost, in later years. But his concern for others, especially his pupils, his great kindness, his personal sympathy and his capacity for undemonstrative friendship were evident to all who came into close personal contact with him.

## IFS, CANS AND CAUSES

By KEITH LEHRER

IN a recent article J. L. Austin<sup>1</sup> has criticized a view that he attributes to G. E. Moore, and, more specifically, to Moore's discussion of free will in his book *Ethics*.<sup>2</sup> Moore, according to Austin, holds the view that "I can, if I choose" and "I could have, if I had chosen" are expressions that express causal connections between their antecedents and consequents.

Austin argues that if a sentence of the form "If p, then q" expresses a causal connection between p and q, then from

... 'If p, then q' we can draw the inference 'If not q, then not p' whereas we cannot infer either 'whether or not p, q', or 'q' simpliciter.<sup>3</sup>

<sup>1</sup> *Editor's Note*. Mr. Lehrer's paper was received before the news of Professor Austin's death.

<sup>2</sup> J. L. Austin, "Ifs and Cans", contained in *Proceedings of The British Academy*, Vol. XLII, 1956, pp. 107-32.

<sup>3</sup> *Ibid.*, pp., 112-13.

He continues,

These possibilities and impossibilities of inference are typical of the *if* of causal condition: but they are precisely reversed in the case of 'I can if I choose' or 'I could have if I had chosen'. For from these we should not draw the curious inferences that 'if I cannot, I do not choose to' or that 'If I could not have, then I had not chosen to'. . . . But on the contrary, from 'I can, if I choose' we certainly should infer that 'I can, whether I choose to or not' and indeed that 'I can' period: and from 'I could have if I had chosen' we should similarly infer that 'I could have, whether I chose to or not' and that anyway 'I could have' period. So that, whatever this *if* means, it is evidently not the *if* of causal condition.<sup>1</sup>

Thus Austin claims to have shown that Moore is mistaken in holding the view that "I can, if I choose" and "I could have, if I had chosen" express causal connections, and it seems evident to me that his argument is conclusive.

Assuming this argument to be correct, we can show that a very important view that Austin also attributes to Moore, and that has been held by many others as well, is certainly mistaken. Most simply the view is that "I can" is analyzable as "I shall, if I choose" and that "I could have" is analyzable as "I should have, if I had chosen" where "I shall, if I choose" and "I should have, if I had chosen" express causal connections between their antecedents and consequents.<sup>2</sup>

I shall first show, using Austin's argument as a premise, that if "I can" is analyzed as "I shall, if I choose", then the latter does *not* express a causal connection, and secondly, I shall show, independently of Austin's argument, that "I can" must not be analyzed as "I shall, if I choose". Similarly, I shall show that if "I could have" is analyzed as "I should have, if I had chosen", then the latter does not express a causal connection, and that "I could have" must not be analyzed as "I should have, if I had chosen". Finally, I shall show that "I can" and "I could have" must not be analyzed by any expressions of the form "I shall, if" and "I should have, if".

Let us suppose that "I can" is analyzed as "I shall, if I choose". If "I can" and "I shall, if I choose" are thus equivalent, we may substitute "I shall, if I choose" for "I can" in "I can, if I choose" and the result will be equivalent to the original expression, that is, to "I can, if I choose". By performing this substitution we arrive at the expression "I shall, if I choose, if I choose". Now the latter is of the form "If p, then if p, then q" and any expression of this form is equivalent to an expression of the form "If p, then q"—the extra ante-

<sup>1</sup> Ibid., p. 113.

<sup>2</sup> Ibid., p. 110, 118.

cedent is wholly redundant. For example, the sentence "If I run, then if I run, I sweat" is equivalent to simply "If I run, I sweat".

Thus "I shall, if I choose, if I choose" is equivalent to simply "I shall, if I choose". But we have arrived at "I shall, if I choose, if I choose" by substituting "I shall, if I choose" for "I can" in "I can, if I choose". Since "I shall, if I choose, if I choose" is equivalent to "I can, if I choose", and since "I shall, if I choose, if I choose" is equivalent to "I shall, if I choose", "I can, if I choose" is equivalent to "I shall, if I choose". However, by Austin's argument "I can, if I choose" does not express a causal connection, and since "I can, if I choose" is equivalent to "I shall, if I choose" the latter does not express a causal connection either.

We have seen that if "I can" is analyzed as "I shall, if I choose", then "I shall, if I choose" is equivalent to "I can, if I choose", and it should be clear from this that "I can" must not be analyzed as "I shall, if I choose". For "I can, if I choose" is clearly not equivalent to "I shall, if I choose" because "I can" is not equivalent to "I shall".<sup>1</sup> To say that I can eat arsenic is not to say that I shall.

Similarly, if "I could have" is analyzed as "I should have, if I had chosen", then by substituting the latter for the former in "I could have, if I had chosen" we arrive at "I should have, if I had chosen, if I had chosen" which is equivalent to "I should have, if I had chosen". Since "I could have, if I had chosen" does not express a causal connection, neither does "I should have, if I had chosen". Again, since "I could have, if I had chosen" is not equivalent to "I should have, if I had chosen", because "I could" is not equivalent to "I should", "I could have" must not be analyzed as "I should have, if I had chosen".

Finally, a similar argument could be used to show that "I can" must not be analyzed as "I shall, if I want to" or "I shall, if I wish to" etc., and that "I could have" must not be analyzed as "I should have, if I had wanted to" or "I should have, if I had wished to" etc. For any attempt to analyze "I can" as "I shall, if" or "I could have" as "I should have, if" will lead to the absurd result that "I shall, if" is equivalent to "I can, if" or that "I should have, if" is equivalent to "I could have, if".

*Brown University.*

<sup>1</sup> *Ibid.*, pp. 111-12.

SENSE WITHOUT DENOTATION<sup>1</sup>

By TIMOTHY SMILEY

THERE are four quite common situations in which problems of logic arise from the attempt to attribute truth or falsehood to a sentence of simple relational or subject-predicate form:

I When, in the sentence, a property or relation is ascribed to objects for which it has not been defined.

II When, in the sentence, a function is treated as having a value for arguments for which it has not been defined.

III When the sentence contains a proper name that has no bearer.

IV When the sentence contains a definite description to which no one thing answers.

My purpose here is to outline a theory of formal logic in which the features that cause the difficulty—incompletely defined properties and functions, bearer-less names, unrestricted formation of definite descriptions—can be explicitly accommodated. This is done by adapting the standard definitions of logical truth and logical consequence to take in the possibility of terms without denotations and sentences without truth-values.

I shall develop the theory at the level of the elementary (first-order) logic of quantification. Consider therefore a formalised language with a vocabulary of predicates, function-constants, individual-constants and individual-variables, together with the usual connectives, the universal and existential quantifiers, and the description-forming operator 'the'. The simplest sentences of such a language are formed by applying a predicate to the appropriate number of subjects; compound sentences are built up from these by means of the connectives and quantifiers. Those expressions that can appear in a subject-place I shall call *terms*. Thus individual-constants and variables are terms; so are expressions of the form  $fa_1 \dots a_n$  where  $f$  is a function-constant and  $a_1 \dots a_n$  are an appropriate number of terms; and so are expressions of the form  $\iota xA$  ('the  $x$  such that  $A$ '), where  $A$  may be any sentence and  $x$  any variable.

Logical truth and logical consequence are defined by means

<sup>1</sup> I have been greatly helped in writing this paper by the suggestions and criticisms of Mr. and Mrs. D. E. Paul.



of the idea of an interpretation, or *assignment of values*. A particular interpretation involves the choice of some non-empty *domain of individuals*. Members of it ('individuals') are first assigned as values to the individual-variables, and may be assigned as values to any of the individual-constants; then functions taking individuals as values are assigned to the various function-constants, while to the predicates are assigned functions taking as values one or other of the two *truth-values*, *T* and *F*.<sup>1</sup> The assignment of further values is carried out in accordance with the following rules:

*Rules for assigning values to terms:*

1. If the values assigned to the function-constant *f* and the terms  $a_1 \dots a_n$  are the function *f* and the individuals  $a_1 \dots a_n$  respectively, then the value of the term  $fa_1 \dots a_n$  shall be the individual  $f(a_1, \dots, a_n)$ .

2. If the sentence *A* has truth-value *T* for one and only one value of *x*, then that (i.e. that value of *x*) shall be the value of the term  $\iota xA$ .

*Rules for assigning truth-values to sentences:*

3. If the values assigned to the predicate *F* and the terms  $a_1 \dots a_n$  are the function *F* and the individuals  $a_1 \dots a_n$  respectively, then the value of the sentence  $Fa_1 \dots a_n$  shall be  $F(a_1, \dots, a_n)$ , which is a truth-value.

4i. The value of  $\sim A$  shall be *F* if the value of *A* is *T*; it shall be *T* if the value of *A* is *F*.

4ii. The value of  $A \supset B$  shall be *F* if the values of *A* and *B* are respectively *T* and *F*; it shall be *T* if they are respectively *T* and *T*, or *F* and *T*, or *F* and *F*.

4iii... corresponding verbal renderings of the other connectives' truth-tables.

5i. The value of  $(x)A$  shall be *T* if the value of *A* is *T* for every value of *x*; it shall be *F* if the value of *A* is *F* for some value of *x*.

5ii. The value of  $(Ex)A$  shall be *T* if the value of *A* is *T* for at least one value of *x*; it shall be *F* if the value of *A* is *F* for every value of *x*.

<sup>1</sup> If '=' is included among the predicates it is of course given a fixed interpretation; i.e., to it is assigned the particular binary function whose value is *T* for identical arguments and *F* for distinct ones.



The definitions of logical truth and logical consequence are: a sentence **A** is logically true (for short,  $\vdash \mathbf{A}$ ), if every assignment of values in every domain gives value *T* to **A**; a sentence **B** is a logical consequence of sentences  $\mathbf{A}_1 \dots \mathbf{A}_n$  (for short,  $\mathbf{A}_1 \dots \mathbf{A}_n \vdash \mathbf{B}$ ), if every assignment of values in every domain which gives value *T* to each of  $\mathbf{A}_1 \dots \mathbf{A}_n$  also gives value *T* to **B**.

At first sight all this is perfectly standard; but if we consider an assignment of values in which the function assigned to a certain predicate is not defined over the whole of the relevant domain of individuals, we see that a simple sentence got by applying the predicate to the appropriate number of terms may just not be assigned any truth-value by the operation of rule 3. Likewise, if a particular term is not assigned a value, no sentence containing it can be assigned a truth-value by the operation of the rules: this is the situation in any assignment of values in which some individual-constant is from the start not assigned any value, or in which the function assigned as value to some function-constant is itself incompletely defined, or in which some sentence **A** receives value *T* for more or less than just one value of *x* (so that the term  $\neg \mathbf{xA}$  can be assigned no value by the operation of rule 2).

These possibilities are of course direct reflections of the original problematic situations I-IV. In the orthodox treatment the first of them is excluded by stipulating that only completely defined functions may be assigned as values to the predicates. The others are excluded either (following Russell) by altogether omitting function-constants, individual-constants and the description operator from the vocabulary; or else (following Frege) by stipulating that only completely defined functions may be assigned as values to the function-constants, by stipulating that every individual-constant shall be assigned a value, and by modifying the rule for the description operator to ensure that a term  $\neg \mathbf{xA}$  is always assigned some value.

#### *The connective 't'*

The general effect of my own proposal at this stage would seem to be that sentences which are in any way connected with the problematic situations I-IV will not be assigned a truth-value. But if one returns to the original description of those situations one sees that a part of the problem they present is precisely that for some relevant sentences there is in principle no problem at all about attributing truth or falsehood (and indeed in some cases one particular attribution is inescapable). Examples are:

"Reptiles do or do not hibernate; adverbs neither do nor do not"; "There is no such ratio as 0/0"; "Pegasus does not exist"; "It is not true that the King of France is bald"; "Either he has no children or his first child's name is Hilary."<sup>2</sup>

I propose to bring these cases too within the formal treatment by introducing an additional singularly connective 't', which may be rendered 'it is true that ...' and which is governed by the following rule:

*Rule:* the value of the sentence  $tA$  shall be  $T$  if the value of the sentence  $A$  is  $T$ ; otherwise it shall be  $F$ .

Unlike the rules given above for the other connectives this is not a verbal rendering of any two-valued truth-table: the "otherwise" clause (which stipulates that the value of  $tA$  shall be  $F$  not only when the value of  $A$  is  $F$  but also when  $A$  has no truth-value) provides for the case where no entry under  $A$  can be made on a table.

Let us now say that an occurrence of a term  $a$  in a sentence  $A$  is *primary*<sup>3</sup> if it does not lie within the scope of any occurrence of the connective 't'; otherwise  $a$ 's occurrence is *secondary*.<sup>3</sup> This enables us to mark out the boundary line, among sentences containing terms that do not denote anything, between those that will fail to have a truth-value on this account and those that will have one nevertheless: if the term  $a$  has a primary occurrence in  $A$ , and  $a$  is assigned no value, then  $A$  has no truth-value.

The connective 't' can be used to define further ones, as follows:

$\sim A$	$=_{df}$	$\sim tA$
$AVB$	$=_{df}$	$tA \vee tB$
$A \& B$	$=_{df}$	$tA \& tB$
$A \supset B$	$=_{df}$	$tA \supset tB$
$A \equiv B$	$=_{df}$	$tA \equiv tB$

Following the obvious analogy I shall call these connectives 'secondary' and the original ones 'primary'. A sentence whose only connectives are secondary never lacks a truth-value. (Thus I should render the 'either ... or' in the example taken from Miss Anscombe by a secondary ' $\vee$ ').

The secondary connectives (even when sentences without truth-values are admitted) behave exactly as do the connectives

<sup>1</sup> G. Ryle, "Heterologicality", *ANALYSIS*, vol. 11 (1950-51).

<sup>2</sup> G. E. M. Anscombe, *An Introduction to Wittgenstein's Tractatus*, p. 42.

<sup>3</sup> Terms introduced in a related connexion by Russell, "On Denoting", *Mind*, vol. 14 (1905), p. 489.

in the orthodox treatment (from which truth-valueless sentences are excluded): all tautologies in them are logical truths, the deduction theorem holds for ' $\supset$ ', contraposition holds for ' $\sim$ ', and so on.

Very little of this holds good for the primary connectives: for example,  $AV \sim A$  cannot be asserted to be a logical truth because of the possibility that  $A$  has no truth-value, and the deduction theorem does not hold for ' $\supset$ ' for the same reason. Most important of all is the failure of contraposition: from the fact that  $A \vdash B$  it does not follow that  $\sim B \vdash \sim A$  (because  $A$ 's having no truth-value while  $B$  has value  $F$  is compatible with  $A \vdash B$  but not with  $\sim B \vdash \sim A$ ). A consequence of this is that it is possible for two sentences to be inter-deducible without their primary negations being inter-deducible. Thus  $A$  and  $tA$  are inter-deducible (for  $tA$  has value  $T$  if and only if  $A$  itself has value  $T$ ), but  $\sim A$  and  $\sim tA$  are not inter-deducible (for if  $A$  has no truth-value then  $\sim A$  has no truth-value either, while  $\sim tA$  (i.e.  $\sim A$ ) has value  $T$ ).

In what follows the most important contrast between primary and secondary connectives will be the contrast between the primary negation-sign ' $\sim$ ' (which might be rendered by a simple 'not', as in "the King of France is not bald"), and the secondary negation-sign ' $\neg$ ' (which should be rendered 'it is not true that ...', as in "it is not true that the King of France is bald").  $A$  and  $\sim A$  are contraries, in that they cannot simultaneously take value  $T$ ; on the other hand  $A$  and  $\neg A$  are contradictories, for always one and only one of them has value  $T$ .

The admission of sentences without truth-values does not at all affect those features of logical consequence that are expressible without the use of any particular connective, e.g. the transitivity of entailment, the freedom to augment and permute premisses, or the entailment of logical truths by everything.

### 'Exists' as a predicate

The idea of existence can be given expression by the addition of a primitive predicate 'exists', governed by the following rule:

*Rule:* the value of the sentence ' $a$  exists' shall be  $T$  if the term  $a$  is assigned a value; otherwise it shall be  $F$ .

But it is not necessary to proceed in this way. According to the existing rules  $a=a$  receives value  $T$  whenever  $a$  is assigned a value, and has no value if  $a$  has none. Hence  $t(a=a)$  has value  $T$  or  $F$  according as  $a$  is assigned a value or not. So one could define:  $a$  exists  $=_{df}$   $t(a=a)$ . (Any other sentence that would

normally be accounted logically true could be used toward the same purpose, e.g.  $(Ex)(x=a)$ .) Nothing said below depends on whether 'exists' is taken as primitive or defined. If it is defined then it can be seen that *a* has a secondary occurrence in '*a* exists', so if it were added as a primitive one would of course extend the definitions of 'primary' and 'secondary' so as to lead to the same result.

Although 'exists' is here admitted as a genuine predicate it would be surprising if there were no logical difference between it and more commonplace predicates. In the following paragraphs I shall say where I think this difference is to be found.

When *a* is a term occurring in the sentence *A*, I shall say that *A* is *about* what *a* denotes, if  $A \vdash 'a \text{ exists}'$ . On this definition any sentence in which *a* has a primary occurrence is about whatever *a* denotes (because such a sentence can only be true if *a* is assigned a value, i.e. if '*a* exists' is true also); but so are some sentences in which *a* does not have a primary occurrence—'*a* exists' being one of them. On the other hand denials of existence like " $\sim(\text{Pegasus exists})$ " are not—according to this definition—about anything denoted by "Pegasus", for we do not have  $\sim(a \text{ exists}) \vdash a \text{ exists}$ .<sup>1</sup>

Now we have distinguished two possible negations of a sentence *Fa*, namely  $\sim Fa$  and  $\sim Fa$ . With an ordinary predicate *F*, the first of these shares with the original sentence the logical consequence '*a* exists', whereas the second has no logical consequences in common with *Fa* (logical truths excepted), and may thus be regarded as its proper contradictory. With an ordinary predicate like 'is bald' the first mode of negation allows in effect the formation of a contrary predicate 'is non-bald' which can be used to make statements about the same things that baldness itself can be predicated of. This is true even of universal predicates like '=': we can grammatically form the sentence  $\sim(a=a)$  and use it to attribute a property—non-self-identity—to something (even though ever to make such an attribution is to lapse into contradiction, since  $\sim(a=a)$  is never true). But with the predicate 'exists' there is simply no way at all of forming a contrary predicate that could be used in a corresponding way to make up a sentence *about* anything: as we have seen,  $\sim(a \text{ exists})$  is not about anything denoted by *a*,

<sup>1</sup> My definition thus incorporates Ryle's argument that negative existence statements are not really about their apparent subjects "for if they are true, there is no such person for them to be about"; but not his argument that the same must be true of affirmative existence statements "for if they were false, there would be no one for them to be about". ("Systematically Misleading Expressions", *Proc. Arist. Soc.*, vol. 32 (1931-2), p. 147.)

and it is *a fortiori* not about anything not denoted by *a*. Here the first mode of negation reduces to and is logically equivalent to the second:

$\sim(a \text{ exists}) \equiv \sim(a \text{ exists}) \equiv \sim t(a=a)$ . (And  $\sim t(a=a)$ , unlike  $\sim(a=a)$ , can very well be true, namely when *a* denotes nothing.)

This distinction between two kinds of predicates corresponds exactly to the division between primary and secondary occurrences of terms: if *a* has a primary occurrence in  $A(a)$  then both  $A(a)$  and  $\sim A(a)$  are sentences *about* what *a* denotes; whereas if none of *a*'s occurrences are primary then at least one of  $A(a)$  and  $\sim A(a)$  is not about anything denoted by *a*.

Philosophers might find the distinction a reason for continuing to say that existence is not a property. What there is definitely no cause to say, however, is that 'exists' is not a (genuine, logical) predicate.

### Presupposition

The idea of presupposition has been introduced in roughly the following sense: one sentence *A* presupposes another, *B*, if the truth of *B* is a necessary condition for *A* to be either true or false.<sup>1</sup> If being false is identified with having truth-value *F*, we can express the idea by the following definition:

*A* presupposes *B* =<sub>df</sub>  $A \vdash B$  and  $\sim A \vdash B$ .

An immediate consequence of the definition is that every presupposition of *A* is a presupposition of  $\sim A$ .<sup>2</sup> This fact makes it appropriate to apply the epithets 'internal'<sup>3</sup> and 'external'<sup>3</sup> to negation as expressed by the signs ' $\sim$ ' and ' $\sim$ ' respectively. For someone who uses the first to deny a proposition belonging to some theory, myth, etc., is committed to the theory's ontology to just the same extent as if he upheld the original proposition—he as it were makes his denial within the theory. In contrast someone who wishes not so much to contradict a particular assertion as to reject the ontology behind it must use the second mode of negation. For example, in "the King of France (viz. the Comte de Paris) is not bald" the negation is internal; in "it is not true that the

<sup>1</sup> E. J. Nelson, "Contradiction and the Presupposition of Existence", *Mind*, vol. 55 (1946). Cf. P. T. Geach, "Russell's Theory of Descriptions", *ANALYSIS*, vol. 10 (1949–50). P. F. Strawson ("On Referring", *Mind*, vol. 59 (1950), and *Introduction to Logical Theory*, p. 175) contrasts presupposition with a relation of 'entailment' whose representation here would be:  $A \vdash B$  and  $\sim B \vdash \sim A$ .

<sup>2</sup> Cf. P. T. Geach and Max Black, *Translations from the Philosophical Writings of Gottlob Frege*, at p. 69.

<sup>3</sup> Terms introduced in a related sense by D. A. Bochvar, "On a three-valued logical calculus and its application to the analysis of contradictions" [in Russian], *Matematicheskij Sbornik*, vol. 4 (1938), and in a rather different sense by Miss Anscombe, *op. cit.*, p. 35.

King of France is bald (because there is no such person)" it is external.

A second consequence of the definition is that if the term *a* has a primary occurrence in the sentence *A*, then *A* presupposes 'a exists' (i.e. presupposes that there exists something denoted by *a*). A bold interpretation of this result would be this: the whole point of the logic here proposed is to allow different and even incompatible theories to be formulated simultaneously in one and the same language. In particular we can all draw on a common vocabulary of names without being committed to some all-inclusive ontology. But unless we are willing to assert that a particular name has a bearer we cannot use that name as a name (i.e. in a primary occurrence), for as soon as we do this we are logically committed to the existence of something denoted by it.

For *descriptions* there are some special results. Observe first that the sentence  $(\exists y)(x)(x=y \equiv A)$ , or  $(E_1x)A$  for short, expresses the existence and uniqueness of something satisfying the condition *A* (for it takes value *T* or *F* according as *A* does or does not take value *T* for just one value of *x*). Then:

1. if  $\neg xA$  has a primary occurrence in the sentence *B*, *B* presupposes that  $(E_1x)A$ .
2. ' $\neg xA$  exists' is inter-deducible with  $(E_1x)A$ .
3.  $\neg xA(x)$  exists  $\vdash A(\neg xA(x))$ .

### Instantiation

The principle of instantiation is the principle  $(x)A(x) \vdash A(a)$ , by which particular cases are inferred from universal generalisations. But if, e.g., there is no such horse as Pegasus, then "Pegasus has four feet" is not a particular case of any generalisation about horses, and ought not to follow from "all horses have four feet". And so Quine says that the principle—along with its contraposed form  $A(a) \vdash (\exists x)A(x)$ —is "simply the logical content of the idea that a given occurrence [of a term] is referential".<sup>1</sup> It is therefore not surprising that in the present system the principle is not forthcoming for terms generally, but holds good if and only if 'a exists' is added as a further premiss.

If assignments of values are permitted in which not every individual-constant need be given a value, the question naturally arises whether a similar relaxation may not be made in respect of the individual-variables. Variables of course serve two completely different purposes in quantificational logic: *bound*, as

<sup>1</sup> From a Logical Point of View, p. 146.



a mere part of the notation of quantification; and *free*, as a kind of unallocated name. In the present treatment, by a familiar and harmless economy, both purposes are served by the same fount of variables, but their rôle as bound variables is unaffected by any relaxation that may be made in the definition of assignment of values. As regards free variables the alternatives may be summarised as follows:

1. An assignment of values does not require that every variable be assigned a value. In this case free variables are *place-holders for terms*: the substitution of specific terms for free variables is always correct, regardless whether the terms have a denotation or not. Hence the principle of instantiation holds for variables in only the same restricted form as for terms generally.
2. An assignment of values requires that every variable must be assigned a value. This makes it incorrect to substitute specific terms for free variables unless it has been shown that the terms actually denote something. But instantiation for variables holds without any restriction: in other words free variables *range over individuals*.<sup>1</sup>

#### *Incompletely defined properties and functions*

Since the orthodox treatment of quantificational logic excludes from consideration properties and relations which are not completely defined, it cannot be applied until properties and relations which are customarily not completely defined have had their ranges of definition in some way extended until all objects whatsoever lie within them. If one concedes the possibility of different categories of objects there is an alternative course: a many-sorted logic, in which the application of a predicate to subjects of the right kind produces a sentence which must (as in the standard treatment) have one or other truth-value, but in which the application of a predicate to inappropriate subjects may produce something that is merely ungrammatical (not well-formed).

The admission of sentences without truth-values opens another alternative: that the attribution of a property to an object for which it is undefined may result in a sentence which is perfectly grammatical but lacks meaning, and has no truth-value for that reason.

It would not follow that all sentences without truth-values

<sup>1</sup> For present purposes nothing much hangs on the choice between these alternatives, though I have in fact adopted the second. But when one considers the interpretation of a language in an empty domain of individuals, then an important difference does appear, for the second alternative is incompatible with such an interpretation,



were without meaning. There is a world of difference between something like "the present King of France is bald", which many people<sup>1</sup> believe to be true, and sentences like "adverbs hibernate" or terms like " $\sqrt{\text{the sun}}$ ", which simply have not been given any meaning in current English.

Nor does it follow that all sentences having to do with incompletely defined properties are without meaning, let alone truth-value. Thus I regard "adverbs neither do nor do not hibernate" as true and as short for "it is not true that adverbs hibernate and it is not true that adverbs do not hibernate". (This is of the form  $\sim tA \ \& \ \sim t \sim A$ , which is true just when  $A$ —"adverbs hibernate"—has no truth value.)

When one property is defined only for objects which possess another, one often says that the first property *presupposes* the second, e.g. that hibernating presupposes being an animal. To bring this within the scope of the formal treatment would involve considering not just the purely logical rules but also rules governing the interpretation of particular predicates of the formalised language, but it is clear that if this is done the definition of presupposition already given above will extend to cover this case too.

Incompletely defined functions do not seem to raise any special issues here, save that with functions the range of definition is often limited not merely to objects of a particular category but also so as to exclude certain 'singular points': for example, if division is defined in terms of multiplication— $a/b =_{\text{df}} x(b \cdot x = a)$ —then " $0/0$ " denotes nothing (though sentences containing it may nevertheless have a truth-value, e.g.  $\sim (Ex)(0/0 = x)$ —"there is no such ratio as  $0/0$ ").

### *Truth and Falsity*

On the natural rendering of the terminology of truth-values, sentences with no truth-value are neither true nor false. (Though anyone who asserts such a sentence,  $A$ , is on my theory logically committed to the assertion of the undoubtedly false sentence  $tA$ ).

But one can equally well reconcile the present theory with the principle that every sentence is either true or false, if, while still equating truth with having truth-value  $T$ , one makes falsity cover everything else.<sup>2</sup> Sentences which would on the first interpretation be neither true nor false are now taken simply

<sup>1</sup> Those who believe that the Comte de Paris is the present King of France.

<sup>2</sup> Cf. Michael Dummett, "Truth", *Proc. Arist. Soc.*, 1958-9.

to be false, though they are distinguished from other false sentences by the fact that their (primary) negations are also false.

Moreover, the semantics of the theory (as given in the earlier part of this paper) can easily be rewritten so that it is the second interpretation and not the first which follows most naturally from the truth-value terminology. One must first add to each rule a residual clause "otherwise  $A$  [or  $A \vee B$  or whatever is relevant] has no truth-value", in order to make explicit what is implicit in the rules as given. Then one simply replaces every phrase of the form " $A$  has no truth-value" by the corresponding phrase "both  $A$  and  $\sim A$  have value  $F$ ", and every phrase of the form " $A$  has value  $F$ " by " $A$  has value  $F$  and  $\sim A$  has value  $T$ ".

The position can be summarised as follows:

1. The central feature of my theory is the division of sentences not into two categories (true and false) but three. Into the third category go, roughly speaking, all sentences directly involving non-denoting terms or incompletely defined properties.
2. The theory is capable of two interpretations, according as sentences in the third category are taken as being neither true nor false or as being false.
3. The category of a compound sentence is a function of the categories of its components: the theory is formally "3-valued".<sup>1</sup>
4. But this aspect of the theory should not be allowed to overshadow the fact that it can be developed purely in terms of the usual *two* truth-values understood as usual as standing for truth and falsity. In the body of this paper this development was carried out for the first interpretation of the theory, but I have shown how it can equally well be done to fit the second interpretation instead.

It follows from 3. that there is no special problem in developing the theory axiomatically, but this I leave to a more technical paper.

*Clare College, Cambridge.*

<sup>1</sup> Cf. Bochvar, *op. cit.*

## THE MEANING OF "EXISTENCE"

By HOLGER STEEN SØRENSEN

I<sup>N</sup> notes in this journal Mr. Robert Binkley<sup>1</sup> and Mr. Yehoshua Bar-Hillel<sup>2</sup> criticize my analysis of "to be" (and "to be true").<sup>3</sup>

1. Binkley says: If Russell commits a mistake in retaining (*does not*) *exist* as a predicate of non-linguistic entities, I commit the same mistake, for: if "A" (a linguistic sign) denotes (*does not* denote), "A" denotes something (nothing); and if "A" denotes something (nothing), something (nothing) is denoted by "A". I do agree with Binkley—if "A" denotes, "A" definitely denotes something, etc.—and I hasten to apologize to readers of my article if I was not sufficiently explicit on this point (p. 127). But let me add: It appears to me that I use (*does not*) *exist* as a predicate of signs: namely, when I use the active of "is denoted by", viz. "denotes". (Bar-Hillel says that Russell does not retain *exist* as a predicate of non-linguistic entities. Since Russell uses the word "is" (the existential "is"), and since, *ipso facto*, he predicates being (existence) of something, and since that something is not something linguistic, I wonder what it is Russell predicates existence of.)

Binkley's point would be important if the passive correlate of "A" denotes nothing" were contradictory. But how could it be? "Nothing is denoted by "A""—e.g. "nothing is denoted by "God""—means "for any entity x, x is not denoted by "A"" or "no matter what entity we select, it will turn out that it is not denoted by "A"". No contradiction is involved: the subject of discourse, viz. the entities we select, is not identical with that which is said not to exist, viz. A, e.g. God, in "A (e.g. God) does not exist". That is, "nothing is denoted by "God"" does not, in contrast to "God does not exist", imply the statement "God exists—as the subject of discourse (=as the bearer of the property of non-existence)". And that is the point.

2. However, Binkley does say that "nothing is denoted by "A"" is contradictory—with the qualification, commented on

<sup>1</sup> "A Note on Sørensen and Existence", ANALYSIS 20.2, p. 48.

<sup>2</sup> "On Mr. Sørensen's Analysis of 'To Be' and 'To Be True'", ANALYSIS 20.4, pp. 93 ff.

<sup>3</sup> "An Analysis of 'To Be' and 'To Be True'", ANALYSIS 19.6, pp. 121 ff.

below, contained in his concluding remark—for he says that it is equivalent to "there is (exists) no entity which is denoted by "A"" or, to use the terms of the canon, "there is no entity *c* such that *c* is denoted by "A"". And this, of course, is as contradictory as what I began with.

The starting-point of my analysis was that, since the denial of existence involves a contradiction, "A does not exist" ("there is (exists) no entity . . .", etc.) must be replaced by another expression, an expression which expresses exactly the same as "A does not exist" (see my article, § 4) without being contradictory. It is therefore annoying to be told that my analysis is as contradictory as what I began with when the proof that is offered is this: "If we restore the very expression which according to you leads to contradiction and must therefore be deleted from our vocabulary, then we are back where we started". This is true, emphatically so. But understood as a proof that my analysis is contradictory—or that it suffers from circularity?—it is difficult to take seriously. That would not have been the case if Binkley had shown that "does not exist" *must* be restored; that is, if he had shown that my translation of "A does not exist", viz. "A" denotes nothing", does not express what is expressed by "A does not exist" unless it is translated into "there is (exists) nothing which is denoted by "A""—in effect, that we cannot avoid "(does not) exist". Binkley does not even make an attempt to show that.

(Bar-Hillel allows himself a lapse into partial agreement with me, saying (§1) that "... usually ... "A is" is identical with ... "A" denotes". But "A" denotes" can *always* be substituted for "A is (exists)". Bar-Hillel, at any rate, makes no attempt to show that this is not the case. Similarly, "p" denotes" can *always* be substituted for "p is true" and "it is true that p" (and "that p is true"). With reference to Bar-Hillel's § 7, let me point out that "exists" (and the existential "is") and "is true" are wholly eliminable from our vocabulary in favour of "denotes" and that elimination of them leaves the rest of our vocabulary intact *qua* vocabulary. Therefore: there holds an identity relation between "exists" and "is true"—an identity relation which is not partial, and which Bar-Hillel is invited to express in whatever terms he may find most appropriate.)

3. My analysis was not intended to cure spurious diseases: diseases contracted in performing the rites of 'existential

quantification'. (Being spurious, such diseases cannot be cured by ordinary means of therapy.) What I mean is this: (a) "Mary loves nothing (no entity)" is an impeccable statement. But now a devotee of the existential quantifier may wish to insist that (a) must be translated into (b) "there is nothing (no entity) which Mary loves", regardless of the fact that nothing is conveyed by (b) which is not conveyed by (a) except contradiction. But if, in general, one insists that "nothing" must be translated into "there is nothing" and "something" into "there is something", one is thereby insisting that, however redundant (in this particular application) and whatever its defects, "(does not exist)" is here to stay—thereby, incidentally, depriving me of vocabulary in which to analyse "(does not exist)", for to analyse an expression  $E_1$  is to introduce an expression  $E_2$  for  $E_1$ , which is impossible on the premiss that  $E_1$  is sacrosanct. But clearly, "(does not exist)" is here to stay if it is indispensable and the contradiction involved in using "does not exist" therefore unavoidable. Fortunately that is not the case.

To avoid misunderstanding: When I wrote my article, I was not concerned with the existential quantifier in particular. But I certainly meant to say that " $\sim(\exists x) \dots$ ", read in terms of "there is (exists) . . .", is contradictory (and " $(\exists x) \dots$ " tautological), like *any* other expression containing "does not exist". Let me be explicit. Consider " $\sim(\exists x)fx$ " (let "f" be "is black"): " $\sim(\exists x)fx$ " = "there is nothing which is black" (or: "there is nothing (no entity) x such that x is black") = "there exists nothing which is black" = "nothing which is black exists" = "for any entity x, if x is black, then x does not exist" = "no matter what entity x we select, it will turn out that if x is black, then x does not exist" (or: "no matter what black entity x we select, it will turn out that x does not exist"). *This is contradictory*. Whereas this is not: "nothing is black" = "for any entity x, x is not black" = "no matter what entity x we select, it will turn out that x is not black".

The spurious disease from which (b) suffers is that (b) is sense, viz. (a), arbitrarily translated into nonsense. Similarly, Binkley's sentence (c) "there is no entity c such that c is denoted by 'A'" is sense, viz. (d) "'A' denotes nothing" (my sentence), translated into nonsense. However, I have no objection to translating a non-existential statement like (a) into its non-contradictory existential equivalent, into "an entity which Mary loves" denotes nothing". But I do object to translating

a non-contradictory existential statement into a contradictory one. My analysis was intended to cure a genuine disease: a disease recognized and felt as a disease, by a patient who does not insist on remaining ill. It was intended to cure statements such as "God does not exist" and "there are (is) no centaur(s)", and any other statement containing "does not exist"—including (b) and similar statements when presented by people who do not insist on using or restoring "does not exist" without having proved that it is indispensable and contradiction therefore unavoidable.

My analysis of "to be" (and "to be true")—which is to this effect: use "*A*" denotes something (nothing)" for "A exists (does not exist)" (and "*p*" denotes something (nothing)" for "it is (not) true that *p*", etc.)—appears to me to have been left undisturbed by Binkley's and Bar-Hillel's notes.

4. However, Binkley's note concludes with the remark that the denial of existence involves no contradiction. Cf. Bar-Hillel's § 3.<sup>1</sup>

If I say that yesterday a centaur was caught in Berkeley Square, I say that there are centaurs, or at least: were, yesterday—"Yesterday there were no centaurs and yesterday a centaur was caught in Berkeley Square" is contradictory—no matter whether the empirical conditions under which I am warranted in asserting what I say are present or not. That is, if I say that yesterday a centaur . . . , I posit, in so saying, the existence of a centaur. In general, when a person *P* predicates, in a sentence *S*, a property *f* (or the absence of *f*), he necessarily predicates *f* of something, *A*, and in so doing *P* posits the existence of *A*: "*A* is *f* and *A* does not exist" is contradictory. (But sometimes the position is hypothetical, as it probably is in (e.g.) "A centaur has four legs". Unless this statement is a camouflaged linguistic (definitional) statement, meaning "Has four legs" is part of the *definiens* of "centaur", it means "If 'a centaur' denotes, then its denotata, viz. centaurs (these entities of flesh and blood), have four legs". It cannot possibly mean "A centaur" does not denote and its denotata (centaurs) have four legs" ("there are no centaurs and centaurs have four legs").) Therefore, if I predicate anything of God, I posit, in so doing, the existence of

<sup>1</sup> Bar-Hillel says that the subject of discourse of e.g. "Anderson does not exist" may be said to be the non-linguistic entity Anderson's existence. Is it to Anderson's existence we attribute the property of non-existence when we say "Anderson does not exist"? (Concerning my use of "subject of discourse" and "property", see my article, § 3.)

God. And if I predicate non-existence of God, I predicate non-existence of the very entity whose existence I posit in formulating the very sentence in which I predicate non-existence—and in so doing I contradict myself. That is all. (But whether God's in his heaven or not is a question which is not in the least affected by my sentences.)

*University of Copenhagen*



## ON DEFINING "MORAL"

By C. H. WHITELEY

A GOOD many recent philosophical papers have been concerned with discussing which principles, attitudes, problems, propositions can be properly counted as "moral", which characteristics are "essential" to what is moral as against what is not. These are questions of definition. But the philosophical problem is not that of giving a "correct" definition, in the sense of one which accords with ordinary usage. For in ordinary usage the words "moral" and "morality" have no precise and consistent use. While there are many principles, attitudes, problems which everybody would agree in calling "moral", and many others which everybody would agree in not calling "moral", there are large numbers of doubtful cases, and no generally accepted criteria for drawing the line. Thus a reasonably exact definition must depart from usage to some extent. Such a definition should not be judged as correct or incorrect; it should be judged as suitable or unsuitable. But we cannot judge of its suitability unless we have some idea what purpose the definition is intended to serve, and in what contexts it is to be used. Different definitions may well be convenient in different contexts or for different purposes. I shall assume that any acceptable way of defining "moral" and "morality" must isolate something which plays a distinctive part in human life, and must enable us to distinguish matters of morality ("right and wrong") from matters of taste or preference, and matters of convenience or expediency, since it is with these matters that morality is usually contrasted. I shall suggest two ways in which this can be done, and two ways in which it cannot be done.

The first possible way is that suggested by the etymology of "moral", "ethical" and similar words. The morality of a community consists of those ways of behaviour which each member of the community is taught, bidden and encouraged to adopt by the other members.

Moral behaviour is behaviour in accordance with these recommended patterns, moral grounds are grounds derived from applying the accepted rules, moral issues are issues involving the required standards. In this concept of morality there is included the idea of a sanction: no rule is part of a community's morality if people can openly break that rule without incurring the hostility and disapproval of their neighbours—there may, but

need not, be other penalties as well. There is also included the idea of *general* rules or standard patterns of conduct, incumbent upon all of given classes of persons in given classes of circumstances; for only general rules or standards can be taught, enjoined and systematically enforced. There is not included in this concept any reference to motive; morality consists in habitual voluntary conformity with the conventions, from whatever motive or motives this conformity arises.

This is a sociological or political concept. Morality so defined has a definite role in the life of societies, and one may study its functions, its development, its relationship with religion, economics, government, etc. The concept suffers from some inevitable vagueness. Disapproval is a matter of degree; there is no clear line of demarcation between cutting a man because he is a boulder, and avoiding him because he is an eccentric. Besides, there are always certain kinds of conduct which some members of a given community wish to insist on, while others are indifferent. For these reasons, the distinction between what is morally obligatory and what is morally optional—a matter of taste or convenience—in a society cannot be quite sharp. But in most societies the doubtful cases are relatively few.

My second possible way of defining "moral" is from the point of view of the agent himself. My morality consists, not in what other people insist that I should do, but in what I insist that I should do. It is the content of my conscience. The peculiarity of conscience, or moral obligation, as against other motives for action, is, as Kant observed, that its imperatives are categorical. My morality comprises those actions which I think I ought to do regardless of inclination and regardless of personal advantage. A man who just does whatever he feels inclined to do has no morals, even if what he does is always right and good. The same is true of a man who always does what he thinks will be for his own greatest happiness. Morality in this sense does not necessarily involve the idea of external penalties: I can hold myself obliged to do something though I shall be none the worse off, even in my neighbours' estimation, if I do not do it. Nor does it necessarily involve the idea of general rules or principles. It is both logically and psychologically possible for me to think that I am morally obliged to do something without thinking that anybody else in a similar situation is or would be obliged to do it. The instances *par excellence* of categorical imperatives, the "calls" or "concerns" which must be obeyed before all else ("The word of the Lord

came unto me, saying . . .") are individual obligations without general import.

This concept of morality is psychological. It defines a certain factor in the consciousness and conduct of individuals. It is a suitable concept for those who are concerned with moral endeavour, aspiration and struggle, with the nature, development and influence of the conscience. It offers a sharper distinction between moral and non-moral than the first concept. For the difference between what I feel obliged to do willy-nilly, and what I am prepared to abandon if I lose my taste for it or find it unprofitable, while not perfectly clear-cut, can be pretty nearly so; and the more self-consciously conscientious I become, the sharper the distinction.

These two concepts of the moral coincide over a wide range: that is, the things that people think they (categorically) ought to do are very largely the things that are enjoined on them by their neighbours. But the coincidence between conscience and convention is logically contingent. It is possible for a community to have rules which, though generally obeyed, are obeyed solely from self-interest or habit, so that no member of it has any "inner" morality. And it is possible for a community of people to have well-developed consciences which do not support any established conventions. No human community fits either of these possibilities. But in all human communities there is a divergence between conscience and convention; and it is usually wider than it looks on the surface. What people in their hearts are devoted to may be something quite other than the conventionally "moral". Here the study of language may easily mislead us. For the way people talk is dominated by the conventions, and can mask the way they think, feel and behave. In the extreme case, the man who denounces "morality" or "conscience" may have quite strong convictions about the way he ought to behave.

"Morality" can thus be defined in two different ways, from a sociological and from a psychological point of view. Contemporary philosophers, whose approach is apt to be neither sociological nor psychological but linguistic, sometimes attempt to draw a distinction between moral and non-moral in terms of uses of language or kinds of reasoning or argument. I do not believe that any such distinction can be drawn.

There are no words or expressions, no uses of words or expressions, no types of proposition, which are distinctively moral or ethical. There are indeed words and expressions whose characteristic use is to evaluate or to recommend, and it is

important that this use of language, which is prominent in talk about morals, should be distinguished from other uses, such as the descriptive or the straight imperative. But words like "good", "right", "ought", which are used to evaluate and to recommend in the discussion of moral issues, are also used, without change of meaning, in the discussion of other matters. Conduct can be good, as meat can be good. The fact that I can approve of conduct on moral grounds (though not only on moral grounds) no more makes "good" an ethical word than the fact that I can approve of meat on dietetic or gastronomic grounds makes it a dietetic or gastronomic word. If I say to you that you *ought* to sell your brewery shares, I can give as my reason either that profits from brewing are declining, or that it is immoral to profit from the debaucheries of your fellows, or both reasons at once. There are many other words (words like "honest", "sly", "rash", "heroic", "strait-laced", "discreet", "boorish", "unselfish", etc.) which play an essential part in the expression of moral appraisals, though linguistic philosophers have paid them very little attention. But they can equally well be used in the expression of non-moral appraisals, or of neutral descriptions. Thus if we define Ethics as the study of the language of morals we give it no effective definition; for morals has neither vocabulary nor idioms of its own. And the examination of the meanings of words which are common to moral and non-moral discourse can hardly be expected to shed much light on the peculiar characteristics of morality.

Similarly, there are no specifically moral kinds of argument. Arguments aimed at convincing a person that he is morally obliged to do or not to do something may be of a variety of logical types: deduction from agreed premises ("But that would be *disbonest!*"); analogy ("Isn't this just like what X did, which we all thought was so shocking?"); appeals to sentiment ("Think how unhappy it would make her!"); sheer brow-beating ("I don't know how you have the nerve to suggest it!"). Sometimes we argue from a general principle, sometimes we attend only to the case in hand. Sometimes we assume a pro-attitude; sometimes we set to work to evoke it. There is no type of reasoning or persuasion in place in moral contexts which is not equally in place in admittedly non-moral contexts. Thus the "moral" is not a subdivision either of language or of logic.

*University of Birmingham.*

—  
ilk  
as  
ke  
to  
d,  
rs.  
an  
ral  
act  
ds  
ou  
er  
ral  
ns  
",  
,  
or-  
he  
ers  
ell  
ral  
he  
als  
n-  
ral  
ch  
  
nt.  
ly  
of  
ld  
ch  
nk  
I  
e-  
nd  
e;  
of  
ot  
he

## NOTES

The ANALYSIS Committee consists of: Chairman, A. E. Duncan-Jones; Secretary, P. T. Geach; A. J. Ayer, R. F. Holland, S. Körner, H. D. Lewis, A. C. MacIntyre, A. M. MacIver, D. Pears, J. F. Thomson, A. R. White. This committee is responsible for appointing the editor and editorial advisers and for the general policy of the paper.

**SUBSCRIPTIONS.** The annual subscription to ANALYSIS is 15s. (U.S.A. \$2.10), post free for six numbers. Orders should be sent to Basil Blackwell, 49 Broad Street, Oxford, or placed with any bookseller.

**CONTRIBUTIONS.** Articles submitted for publication should as a rule be not more than 3,000 words in length and must be typewritten in double spacing on one side of the paper only. They should be sent to Mr. Bernard Mayo, Philosophy Department, The University, Edmund Street, Birmingham 3. Contributors in the United Kingdom should enclose a stamped addressed envelope of suitable size; if immediate acknowledgment is required a stamped postcard should also be enclosed. Overseas contributors, if they wish to have their MSS. returned, should send an envelope and international reply coupons of the requisite value.

Proofs are normally read by the Editor. Contributors who wish to see their own proofs are asked to notify the Editor at the same time as the MS. is submitted.

The six numbers making up a volume will appear as far as possible within the academic year—in October, December, January, March, April and June.

**OFFPRINTS.** Contributors will be supplied free of charge with a limited number of offprints of their articles. Further copies may be ordered at a charge from the publishers. Orders for these, if required, should be placed direct with the publishers when an article has been accepted for publication.

